DEPARTMENT of ENVIRONMENTAL SERVICES Water Division - Watershed Management Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: PILLSBURY LAKE	Lake Area (ha):	18.21
Town: WEBSTER	Maximum depth (m):	3.0
County: Merrimack	Mean depth (m):	1.4
River Basin: Merrimack	Volume (m^3) : 26	3500
Latitude: 43°16'56" N	Relative depth:	0.6
Longitude: 71°40'49" W		3.58
Elevation (ft): 415	Areal water load (m/yr): 5	
Shore length (m): 5420	, ,	6.80
Watershed area (ha): 2247.8		0.35
<pre>% watershed ponded: 3.4</pre>	Lake type: artific	cial

BIOLOGICAL:	27 January 1999	17 August 1998	
DOM. FHYTOPLANKTON (% TOTAL) #1	NO WINTER PLANKTON	DINOBRYON 80%	
#2	ANALYZED	RHIZOSOLENIA 7%	
#3		CHRYSOSPHAERELLA 6%	
PHYTOPLANKTON ABUNDANCE (units/mL)			
CHLOROPHYLL-A (µg/L)		6.95	
DOM. ZOOPLANKTON (% TOTAL) #1		KERATELLA 38%	
#2		NAUPLIUS LARVA 27%	
#3		CONOCHILUS 16%	
ROTIFERS/LITER		522	
MICROCRUSTACEA/LITER		316	
ZOOPLANKTON ABUNDANCE (#/L)		879	
VASCULAR PLANT ABUNDANCE		Very abundant	
SECCHI DISK TRANSPARENCY (m)		2.4 Visible on bottom	
BOTTOM DISSOLVED OXYGEN (mg/L)	TOM DISSOLVED OXYGEN (mg/L) 11.6 9.0		
BACTERIA (E. coli, #/100 ml) #1		5	
#2			
#3			

SUMMER THERMAL STRATIFICATION:

not stratified

Depth of thermocline (m): None Hypolimnion volume (m^3) : None Anoxic volume (m^3) : None

HEMICAL:			PILLSBURY WEBSTER	Y LAKE	
	27 January 1999		17 August 1998		
DEPTH (m)	1.0		1.5		
pH (units)	6.2		7.1		
A.N.C. (Alkalinity)	6.4		8.5		
NITRATE NITROGEN	0.06		< 0.05		
TOTAL KJELDAHL NITROGEN	0.30		0.60		
TOTAL PHOSPHORUS	0.004		0.019		
CONDUCTIVITY (µmhos/cm)	71.5		67.8		
APPARENT COLOR (cpu)	42		55		
MAGNESIUM			0.80		
CALCIUM			4.1		
SODIUM			8.3		
POTASSIUM			< 0.40		
CHLORIDE	14		12		Lucian
SULFATE	4		3		
TN : TP	90		32		
CALCITE SATURATION INDEX			2.7		

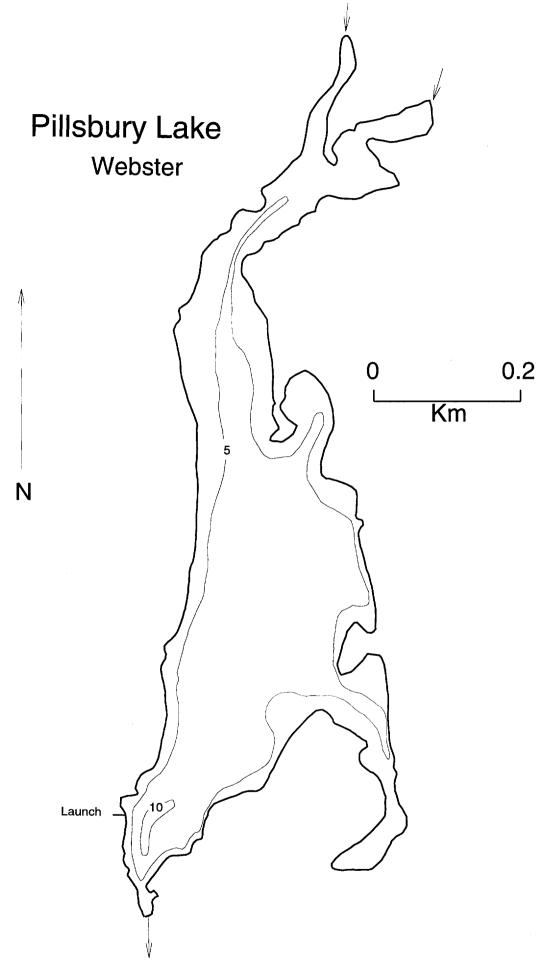
All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1998

D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
**	3	6	1	10	Eutro.

COMMENTS:

- 1. Pillsbury Lake was previously surveyed and classified in 1979 and was rated eutrophic in both years.
- 2. This is a man-made pond, created by building a dam on Deer Meadow Brook and flooding a wetland area. It is shallow and supports a very abundant growth of native aquatic plants. Herbicides were applied to the pond in an attempt to control the plant growth in 1979 through 1984 and again in 1999. The gap in treatment between 1984 and 1999 was not because of the success of the herbicide treatments; the plants generally return within a year after treatment because the area is ideal wetland habitat.



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FIELD DATA SHEET

LAKE: PILLSBURY LAKE TOWN: DATE: 08/17/1998 WEATHER: RAINY

TOWN: WEBSTER

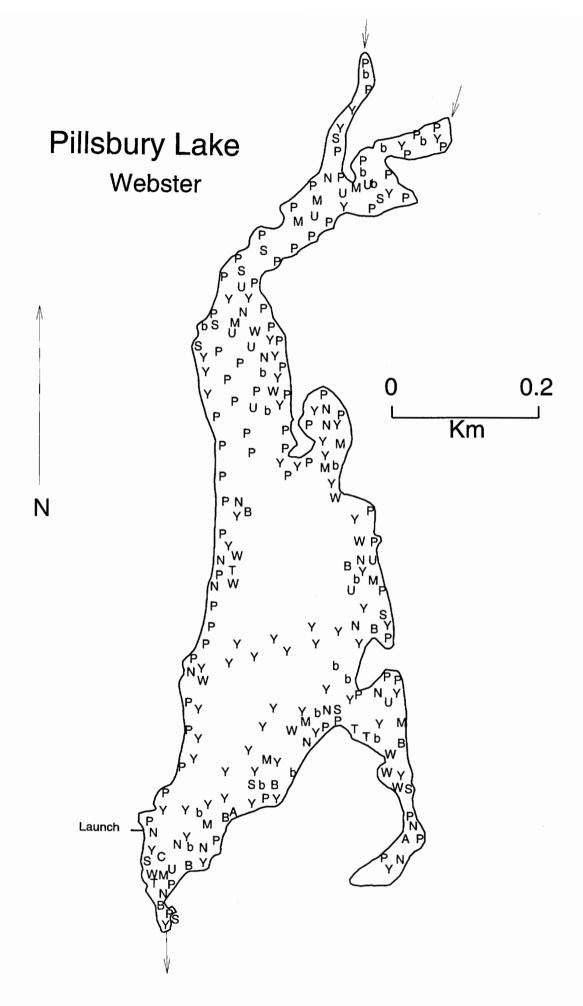
T			
DEPTH (M)	TEMP (°C)	*DISSOLVED OXYGEN	OXYGEN SATURATION
0.1	25.5	8.5	102 %
1.0	25.1	8.7	104 %
2.0	23.8	9.0	103 %
			1000
			1.000
		1.100	

SECCHI DISK (m): 2.4 VOB COMMENTS:

BOTTOM DEPTH (m): 2.4

TIME:

*Dissolved oxygen values are in mg/L



AQUATIC PLANT SURVEY

LAK	E: PILLSBURY LAKE	TOWN: WEBSTER	DATE: 08/17/1998
Vor	PLANT NAME		ABUNDANCE
Key	GENERIC	COMMON	ABUNDANCE
P	Pontederia cordata	Pickerelweed	Abundant
N	Nymphaea	White water lily	Common
Y	Nuphar	Yellow water lily	Abundant
В	Brasenia schreberi	Water shield	Common
A	Sagittaria	Arrowhead	Scattered
b	Najas	Bushy pondweed	Common
С	Carex	Sedge	Sparse
S	Sparganium	Bur reed	Scattered
M	Myriophyllum	Native milfoil	Abundant
U	Utricularia	Bladderwort	Abundant
Т	Typha	Cattail	Scattered
W	Potamogeton	Pondweed	Common

OVERALL ABUNDANCE: Very abundant

GENERAL OBSERVATIONS:

1. A very shallow weedy pond.

2. At least 5 different species of *Potamogeton* and at least 2 species of bladderwort (both yellow and purple flowered species) were present.

3. Rainy day made viewing of subsurface plants difficult; submerged plants may be more abundant than indicated.